

Discourse-level representation of possessed and adjective-modified referents

Jesse Storbeck & Elsi Kaiser (University of Southern California)

jstorbec@usc.edu

A central component in our understanding of discourse and its underlying mental representations is that referents vary in prominence, e.g. subjects are typically more prominent than objects [1]. Most work on discourse prominence has focused on simple noun phrases (e.g. *the stockbroker*, *a saxophone*) [2,3]. There is comparatively little work on the discourse behavior of nominal possessives, a type of complex noun phrase (e.g. *her stockbroker*, *his saxophone*) [4,5,6]. In contrast to simple noun phrases, possessives make reference to an additional entity (e.g. the possessor *her* in *her stockbroker*), as well as the phrase's head noun.

Some prior psycholinguistic work suggests that possessed animates (e.g. *stockbroker* in *her stockbroker*) are especially prominent in discourse, perhaps due to the socially salient interpersonal relationships that they denote [6]. However, this earlier work compared possessed nouns to indefinites (e.g. *a saxophone*). Given that possessives are often analyzed semantically as definite [7], effects attributed to *possession itself* could be instead due to differences in *definiteness* between possessives and indefinites. The present work addresses this concern by controlling for definiteness (e.g. *her stockbroker* vs. *the stockbroker*).

Additionally, we investigate how **representational complexity** (via adjective modification) affects the discourse prominence of possessed and non-possessed referents. Increased representational complexity—essentially the amount of information encoded in a noun phrase—has been shown to facilitate a referent's retrieval from memory [8,9,10]. As memory retrieval and discourse prominence are related concepts, we examine how modification with an adjective might increase a referent's discourse prominence.

Method: We used a sentence continuation task—commonly regarded to reflect the prominence of competing referents [2]—in which native English speakers ($n=112$) wrote continuations to prompts (24 targets, 32 fillers). Target prompts had the frame [role noun_i] [verb] {*the*, *her*_i, *his*_i} {adjective, \emptyset } {role noun_j, inanimate_j} *because* (see Table 1). We manipulated the direct object of the prompt with respect to its (i) animacy (human role nouns vs. alienable inanimates), (ii) determiner (possessive *her/his* vs. definite *the*), and (iii) modification (adjective vs. none). Targets ended in *because* to control for the coherence relation between the prompt and continuation [11].

Participants' written continuations were coded for where and how referents from the prompt were mentioned. Here we focus on the subject position of continuations under the assumption that the most prominent referent tends to be realized there [2,3]; however, we also analyze mentions across the entire continuation, as well as pronominalization patterns.

Results: First, we examine mentions of the prompt object as the continuation subject (Fig. 1), since the object of the prompt is the locus of the experimental manipulations. In this analysis, we find that possessed objects were significantly less likely to be mentioned in subject position of continuations compared to definite objects (glmer; $p=.03$). Neither animacy nor adjective modification had an effect on the prompt object's likelihood of mention as continuation subject ($p=0.11$ and $p=.26$, respectively).

Intriguingly, the adjective modification manipulation of the prompt object influenced how likely people were to refer back to the prompt *subject* subsequently in their continuation. When we examine mentions of the prompt *subject* as the subject of the continuation (Fig. 2), we find that the prompt subject was more likely to persist as subject of the continuation when the prompt object was modified with an adjective ($p=.05$; no other significant effects).

Discussion: While possessives and definites may be treated similarly in semantic theories, we suggest they are not equivalent in prominence; instead, possessed referents appear less prominent than definites (insofar as prominence correlates with subjecthood). Additionally, our finding that adjective modification of the prompt object made the unmodified prompt subject—but not the object—a more likely continuation subject challenges theories that directly associate a referent's representational complexity with its discourse prominence [8,9,10]. Instead, it is possible that the adjective emphasizes the cause-effect coherence relation, which in turn boosts the prominence of the already advantaged prompt subject [1,11].

	Definite	Possessive
Animate	The carpenter judged the {left-handed, \emptyset } nurse because	The carpenter judged his {left-handed, \emptyset } nurse because
Inanimate	The carpenter judged the {gluten-free, \emptyset } cake because	The carpenter judged his {gluten-free, \emptyset } cake because

Table 1: Example target prompt showing the 2x2x2 design. Pairs of animate nouns differed in stereotypical gender (gender order counterbalanced) to minimize pronominal ambiguity [12].

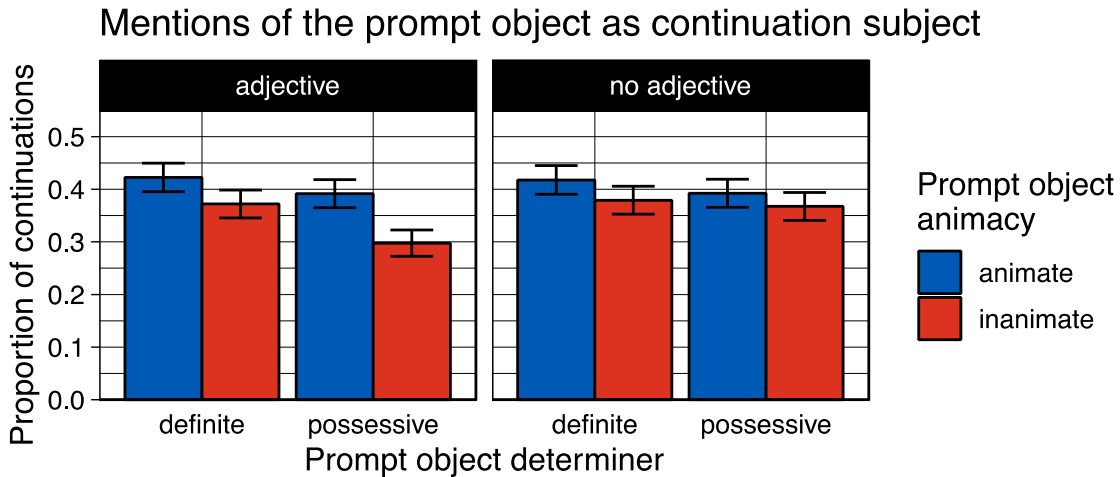


Fig. 1: Does the subject of the continuation refer back to the prompt object?

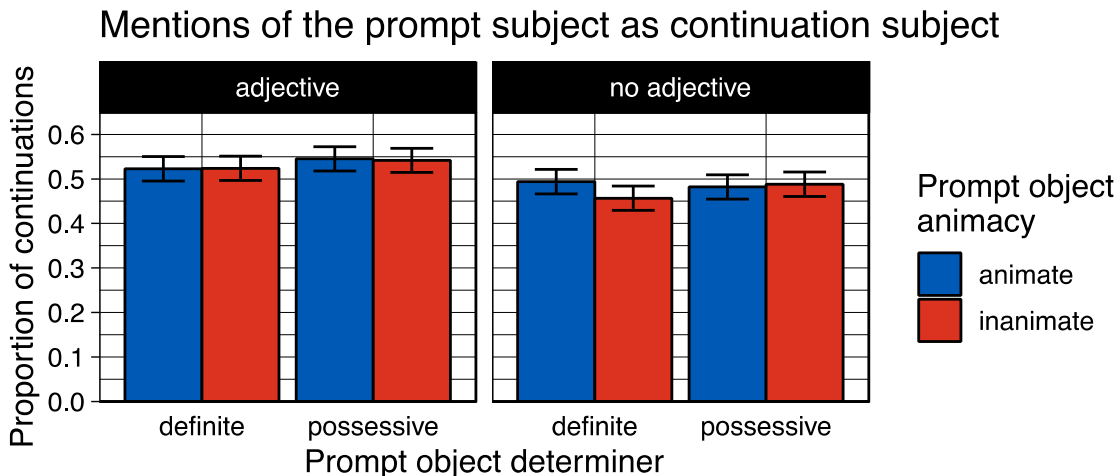


Fig. 2: Does the subject of the continuation refer back to the prompt subject?

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